

Remarks

Receipt of the Office action mailed January 5, 2004, is acknowledged.

Applicants are filing herewith a Request for Continued Examination. Claim 1-38 are pending in the application. Claims 1-38 have been cancelled, and new claims 39-59 are submitted herewith. In keeping with the foregoing amendment and the following arguments, allowance of the newly submitted claims 39-59 is respectfully requested.

New claims 39-59 are submitted herewith, of which claims 39, 48 and 55 are independent. Each of claims 39, 48 and 55 recites a method of manufacturing a corrugated board comprising, in part, the steps of applying a non-adhesive wetting agent to a plurality of crests on the first side of the first web, and applying an adhesive composition to the plurality of crests on the first side of the first web. In contrast, none of the cited references, including the references applied in the second Office action, recites the above-noted steps of claims 39, 48 and 55.

Referring to FIG. 1 of Swift, U.S. Patent No. 1,199,508 ("Swift"), the corrugated web 4 is sprayed by a sprayer 6 with an adhesive solution 5 before the plane web 8 is attached thereto. Swift discloses the following on column 3, lines 17-28:

However, I find it convenient to include, in connection with the mechanism above described, means for providing the crests of the corrugations of said web 4 with additional adhesive material, and therefore provide the pasting devices including the receptacles 27 which may be supplied with sodium silicate solution, under control of the valve 28, or other suitable material which is picked up by the rollers 29 and distributed upon the web 4 by the rollers 30. (Emphasis Added)

As described above, Swift discloses adding two layers of adhesive to the corrugated web--the first layer of adhesive being applied by the sprayer 6 and the second layer of adhesive being applied by the rollers 29. Therefore, Swift does not

disclose or even suggest that the first solution 5 sprayed on the corrugated web is or can be a non-adhesive solution. Furthermore, modifying Swift to apply a non-adhesive wetting agent would destroy the intended function of Swift, because Swift explicitly discloses that it would be "convenient to include ... means for providing the crests of the corrugations of said web 4 with **additional** adhesive material ..." (Emphasis added).

Referring to Miller, U.S. Patent No. 5,609,711 ("Miller"), a method of bonding laminates using pregelatinized starch is disclosed. Referring to FIG. 3 of Miller, a starch applicator 28 provides a layer of starch on the entire surface of the corrugated material 20. Miller additionally discloses the following at column 6, lines 43-48:

Adhesive applicator device 28 applies a multiplicity of parallel spaced apart significantly gelatinized starch adhesive beads 30 between the corrugated medium and the liner. **Optional supplemental adhesive applicator devices 32, 34 may be used to form two or three element beads, as seen in FIG. 8.** (Emphasis Added)

As described above, Miller optionally provides additional starch applicators 32 and 34. These applicators, however, are used to form beads of starch on the corrugated material 20. Therefore, Miller does not disclose or even suggest that either the applicator 28 or any of the optional applicators 32 and 34 apply a non-adhesive wetting agent and then an adhesive composition on the crests of the corrugated material. Furthermore, modifying Miller to apply a non-adhesive wetting agent would destroy the intended function of Miller, because Miller explicitly discloses that the optional starch applicators 32 and 34 are to be used for forming beads of starch on the corrugated material.

Referring to both Wallick, U.S. Patent No. 5,292,391 ("Wallick '391") and Wallick, U.S. Patent No. 5,332,458 ("Wallick 458"), a corrugated paperboard strength

enhancement process is disclosed. Both Wallick '391 and Wallick '458, disclose the following at column 5, lines 5-15, and column 4, lines 7-18, respectively:

[A]t a resin application station generally indicated at 44, a **solution of suitable strength enhancing resin**, such as suitable isocyanate compound is sprayed or otherwise applied to all or a portion of the exposed surface of the already fluted traveling medium 25. As depicted in FIG. 1, **immediately after the resin is applied, the typical bonding adhesive (commonly a starch solution) is applied at nip 46**. By applying the glue after the application of the resin, the glue doesn't interfere with the penetration of the resin into the medium and the application of the resin to the medium. (Emphasis Added)

As described above, both Wallick '391 and Wallick '458 first apply a strength enhancing resin to the corrugated material and then apply a glue on top of the strength enhancing material. Therefore, both Wallick '391 and Wallick '458 fail to disclose or even suggest applying a non-adhesive wetting agent to the corrugated material followed by an adhesive composition. Furthermore, both Wallick '391 and Wallick '458 disclose the following objective for applying the strength enhancing resin:

The fundamental effort is to strengthen the combined board by the resin addition and curing so that relatively less fiber can be utilized with the resulting combined board providing enhanced strength. (See column 8, lines 2-5 of Wallick '391)

Therefore, modifying either one of Wallick '391 or Wallick '458 to apply a non-adhesive wetting agent to the corrugated material would destroy the intended function of each reference, because the non-adhesive wetting agent cannot provide the above quoted objective of both the Wallick references.

Referring to Westphal, U.S. Patent No. 5,607,508 (Westphal), a device for coating only the crests of a corrugated material is disclosed. FIG. 1 of Westphal discloses a moving pressurized nozzle 13 that moves laterally relative to the crests 2 of

a corrugated material 14 to only coat the crests 2. Alternately, and with reference to FIG. 3, Westphal includes a number of non-moving sprayers 13 that are laterally positioned relative to the crests 2 to only coat the crests 2. Therefore, Westphal does not disclose or even suggest applying both a non-adhesive wetting agent and an adhesive composition to the crests of the corrugated material.

Because none of the above-discussed references discloses applying a non-adhesive wetting agent to the corrugated material, none of the above-discussed references anticipate claims 39, 48 and 55. Additionally, there is no teaching, suggestion, or motivation in the above-discussed references, whether taken alone or in combination, to provide applying a non-adhesive wetting agent to the corrugated material followed by an adhesive composition. Absent such teaching, suggestion, or motivation in either each of the references or a combination thereof, a *prima facie* case of obviousness cannot be established. *ACS Hospital Systems, Inc. v. Monteforre Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). Therefore, claims 39, 48 and 55, and claims depending there from, are patentable over the above-discussed references.

In view of the foregoing, claims 39-59 as presented herein are in good and proper form for allowance. A favorable action on the part of the Examiner is respectfully solicited.

The Examiner is invited to contact the undersigned at the telephone number listed below in order to discuss any remaining issues or matters of form that will place this case in condition for allowance.

Respectfully submitted,



Saeid Mirsafian
Reg. No. 52,035
MARSHALL, GERSTEIN & BORUN
233 S. Wacker Dr.
6300 Sears Tower
Chicago, Illinois 60606
(312) 474-6300

March 24, 2004